

REMARKS

The indication of allowable subject matter in claims 2, 5, 8, 11, 14, 17 and 20 is acknowledged and appreciated. In view of the following remarks, it is respectfully submitted that all claims are in condition for allowance.

Claims 1, 4, 7, 10, 13, 16 and 19 are independent and stand rejected under 35 U.S.C. § 103 as being unpatentable over Patton et al. '840 ("Patton") in view of Carnegie et al. '047 ("Carnegie"). As a preliminary matter, it is noted that newly cited Carnegie does not appear to be formally of record, as it does not appear to be listed on any PTO-1449, -892 form currently of record. Accordingly, it is respectfully requested that the Examiner list Carnegie in a PTO-892 form in the next Office Action. This rejection is respectfully traversed for at least the following reasons.

The Examiner admits that Patton does not disclose or suggest torque measurements and therefore relies on Carnegie as allegedly disclosing the claimed torque estimation, and thereby modifies Patton in an attempt to reach the claimed invention. However, the torque estimation conducted by Carnegie is completely unrelated to the present application and Patton. Specifically, Carnegie discloses a conventional torque estimation technique for measuring the torque constant K_t *in testing magnet assemblies for quality control* (see, e.g., col. 1, line 54 – col. 2, line 2; and col. 3, lines 13-15). That is, Carnegie is directed to measuring the torque applied to the actuator arm per unit current for *designing* the technical specifications of the actuator arm prior to operation in a real-system (e.g., to ensure sufficient torque can be applied with the available current in a given servo-controller; see col. 1, lines 58-61). Accordingly, the torque estimations of Carnegie are NOT for a feedback system to compensate for *disturbances during actual operation* in a real-system as in Patton. In fact, Carnegie expressly teaches away from the measured torque being a result of external disturbances; namely, Carnegie's "method and system are not influenced by the torque

from mechanical effects such as friction or torque from the current carrying leads” (see last four lines of Abstract).

It is therefore respectfully submitted that, even assuming *arguendo* proper, the proposed combination does not disclose or suggest a torque estimation *for a feedback system*. In contrast, the proposed combination would result in a torque estimation to determine the current levels needed by the servo-controller *to properly size the servo-controller in the design stage*; and the feedback system during operation would correspond to that of Patton so as to be, at best, velocity-based. There is no suggestion from the cited prior art for providing an acceleration-based feedback system. This distinction is further evidenced from the means by which Carnegie measures the torque, in which the actuator is passed through a *magnetic field* (see, e.g., col. 3, lines 1-3) not related to actual operation of the device, to measure the induced change in potential; without any reliance on drive/voltage signals corresponding to the actual driving of the actuator in a real-system as is done in a feedback system (see col. 6, line 62 – col. 7, line 10).

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejection does not "establish *prima facie* obviousness of [the] claimed invention" as recited in the independent claims because the proposed combination fails the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are

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contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as the independent claims are patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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